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INDEX

TO THE

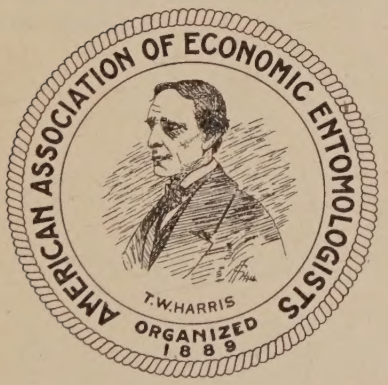
LITERATURE

OF

AMERICAN ECONOMIC ENTOMOLOGY

January 1, 1905 to December 31, 1914

Compiled by
NATHAN BANKS



AMERICAN ASSOCIATION OF ECONOMIC ENTOMOLOGISTS
MELROSE HIGHLANDS, MASS.
1917

INTRODUCTORY

The great need of bringing the Bibliography of American Economic Entomology down to date was considered at the Cleveland meeting in 1913. A special committee was appointed and drafted resolutions urging the Secretary of Agriculture to continue this exceedingly useful publication. As this proved impracticable, the President appointed a special committee consisting of W. E. Britton, E. P. Felt and J. J. Davis to formulate and submit a plan the following December. This was done; the plan duly accepted and the following were then appointed to have charge of the work: Messrs. E. P. Felt, W. E. Britton, W. E. Hinds, W. C. O'Kane and A. F. Burgess, a committee which continued in charge until the completed index was put into the hands of the Editorial Board of the *Journal of Economic Entomology*. The committee arranged with Dr. L. O. Howard, Chief of the Federal Bureau of Entomology, for the compilation of the Index, submitted progress reports in December 1914 and 1915 and after exhausting every reasonable possibility of securing the publication of the work through a government agency, prepared a third report which was favorably acted upon in December 1916, authorizing its publication by the Journal Board. It is perhaps unnecessary to add that much of the success of the work, projected as it is along new lines, is due to the untiring patience and devotion of the compiler, Dr. Nathan Banks, then connected with the United States Bureau of Entomology.

E. P. Felt,
W. E. Britton,
W. E. Hinds,
W. C. O'Kane,
A. F. Burgess,
Committee.

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INDEX TO THE LITERATURE OF AMERICAN ECONOMIC ENTOMOLOGY

JANUARY 1, 1905, TO DECEMBER 31, 1914

By NATHAN BANKS

The following Index to the literature of American Economic Entomology for the ten-year period from January 1, 1905 to December 31, 1914, is a continuation of the Bibliography of Economic Entomology. It has been recognized for some time that an Index on the following plan would contain all that was most useful in the Bibliography and besides would furnish the page references, and be more readily usable and occupy less space than the Bibliography. The insects and other headings are arranged alphabetically; under each are placed the references by author alphabetically. The several articles by one author are arranged chronologically. Unsigned articles are placed after the other references.

The amount of entomological literature has increased enormously in the last ten years, more especially in the agricultural press. Much of this is but a reprint of Station and Federal bulletins; and when plainly so has not been indexed. It is, however, impracticable to examine each article thoroughly to see whether it contains new matter, so doubtless various references may duplicate others, and on the other hand it is probable that some references have been omitted that should have been included. It is also probable that various references have escaped notice of the compiler.

The references (following a recommendation of a committee of the American Association of Economic Entomologists) are rather more abbreviated than usual; but will be readily understood by entomologists, at least with the following explanations:

"B." means bulletin, "C.," circular, "R.," report, "P. B.," press bulletin. Publications of experiment stations are referred to simply by State and number of bulletin, circular or report, as "Fla. B. 42" means Bulletin 42 of the Florida Agricultural Experiment Station. In New York, the Cornell bulletins are referred to as "N. Y. C. B."; the Geneva Station bulletins as "N. Y. St. B." The bulletins of the Bureau of Entomology, United States Department of Agriculture are referred to as "U. S. B."; the yearbook articles as "U. S. Y. B."; the Farmers' Bulletins as "U. S. F. B."; the more recent bulletins of this Department as "U. S. D. A. B."; the Gipsy and Browntail Moth Reports are "G. & B.-T. R."

"Pr." is used for Proceedings, "Jr." or "J." for Journal. The words "State" and "Annual" are usually omitted in the references, although in a few cases "St." (State) is retained because of possible confusion. The first figure after the "B." or "R." indicates the number of the bulletin or report and the next figure the page; the year is usually added, for it is oftentimes a help.

The preparation of the Index has been greatly facilitated by the aid of two typewriters, Mrs. Harriet Bishop and particularly by Miss M. G. Champney, whose knowledge of entomology and of the methods of the Bureau has been of especial value during the entire time of preparation.

LIST OF ABBREVIATIONS

The list of abbreviations given below is supplementary to the preceding explanations:

Agr. = Agriculture, Agriculturist
Agric. = Agriculturist, Agricultural
Am. or Amer. = American
Ann. = Annals, Annual
App. = Appendix
Archiv. = Archives
Assoc. = Association
B. = Bulletin
B. C. = British Columbia
Bd. = Board
Bien. = Biennial
Bio. or Biol. = Biological
Bost. = Boston
Br. = Branch
Bu. or Bur. = Bureau
Bull. = Bulletin
C. = Circular
C. when after N. Y. = Cornell
C. Gentl. = Country Gentleman
Calif. = California
Can. = Canada
Clem. = Clemson
Col. = Colmans
Coll. = College
Comm. = Commission
Confer. = Conference
Cong. = Congress
Contr. = Contribution
Conv. = Convention
Cran. or Cranb. = Cranberry
Cult. = Cultivator
Cut. or Cutan. = Cutaneous
D. A. = Department Agriculture
Dept. = Department
Dermat. = Dermatology
Destr. = Destructive
Dis. = Diseases
Dom. = Dominion
Ec. = Economic
Econ. = Economics
Educ. = Education
Eng. = Engineering
Ent. = Entomology, Entomologist
Exch. = Exchange
Exp. = Experimental
Exterm. = Extermination
Farm. = Farmer
Fed. = Federal
For. = Forestry
Fr. = Fruit
Fum. = Fumigation
Fung. = Fungicide
G. & B. T. = Gipsy and Brown Tail
Gard. = Gardening, Gardeners
Gaz. = Gazette
Gen. = General
Gentl. = Gentleman
Geog. = Geographic
Grow. = Grower
Hort. = Horticulture, Horticulturist
Hosp. = Hospital
Hyg. = Hygiene
Infect. = Infectious
Inform. = Information
Inj. = Injurious
Ins. = Insects, Insecticide
Insect. = Insecticide
Insp. = Inspection
Intern. = International
Interst. = Interstate
J., Jr. or Jour. = Journal
L. I. = Long Island
Lab. = Laboratory
Lumberm. = Lumberman
Mag. = Magazine
Man. = Manual
Med. = Medicine
Meet. = Meeting
Mem. = Memoir
Milit. = Military
Mill. = Miller
Mod. = Modern
Month. = Monthly
Mort. = Mortality
Mosq. = Mosquito
Mus. = Museum
N. Eng. = New England
N. Orl. = New Orleans
Nat. = Naturalist
Nat'l = National
Northw. = Northwestern
Not. = Notices

Nurs. = Nursery
O. = Ohio
Off. = Office
Ont. = Ontario
Or. = Orange
Orch. = Orchard
Ott. = Ottawa
P. B. = Press Bulletin
Pac. = Pacific
Path. = Pathological
Plant. = Planter
Poly. = Polytechnic
Pom. = Pomological
Pom. with Ent. = Pomona
Pop. = Popular
Prai. = Prairie
Prevent. = Preventive
Prod. = Producers
Prog. = Progressive
Pub. = Public
Public. = Publication
Quar. or Quart. = Quarterly
R. = Report
Rec. = Record
Rev. = Review
Roy. = Royal
Rur. = Rural
S. = South
Sci. = Science
Sec'y. = Secretary
Serv. = Service
Sess. = Session
Soc. = Society
South. = Southern
Sp. = Special
St. = State
Sta. = Station
Statis. = Statistical
Stockm. = Stockman
Suppl. = Supplement
Suppr. = Suppression
Supt. = Superintendent
Surg. = Surgeon
S. W. = Southwestern
Syn. = Synopsis
Techn. = Technical
Tr. or Trans. = Transactions
Trop. = Tropical
Univ. = University
U. S. B. = Bulletin U. S. Bureau Entomology
U. S. C. = Circular U. S. Bureau Entomology
U. S. D. A. B. = Bulletin U. S. Dept. Agriculture
U. S. F. B. = U. S. Dept. Agric. Farmers Bulletin
U. S. B. An. I. = U. S. Bureau Animal Industry
U. S. Y. B. = Yearbook U. S. Dept. Agriculture
Veg. = Vegetation
Vet. or Veter. = Veterinary
West. = Western
Zoöl. = Zoölogy

AMERICAN ECONOMIC ENTOMOLOGY
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By Nathan Banks

Abbot's sphinx, *see* **Sphecodina abbotii**

Abbot's white-pine sawfly, *see* **Lophyrus abbotii**

Abia inflata
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Ablerus clisiocampae
Marlatt, U. S. B. 62, 61, 1906.
Hayhurst, Ark. B. 107, 376, 1911.
Quaintance, U. S. C. 124, 10, 1910.
Zimmer, U. S. B. 97, 119, 1912.

Ablerus sp. on grape scale
Zimmer, U. S. B. 97, 119, 1912.

Acanthia lectularia, *see* **Cimex**

Acanthocephala femorata
Morrill, U. S. B. 86, 91, 1910.

Acanthocinus obsoletus
Felt, N. Y. St. Mus. Mem. 8, 662, 1906.

Acanthocoris musculus
Titus, Utah B. 110, 50, 1910.

Acanthoderes decipiens
Felt, N. Y. St. Mus. Mem. 8, 473, 1906.

Acanthoscelides obtectus, *see* **Bruchus**

Acariasis
Stiles, Osler's Mod. Med., I, 626, 1907.

Acetylene
Britton, Conn. R. 8, 798, 1909.

Achaetoneura frenchi, *see* **Frontina**

Achatodes zeae
Forbes, Ill. Ent. R. 23, 83, 1905.
Johannsen, Me. B. 177, 23, 1910.

Achemon sphinx, *see* **Pholus achemon**

Acholla multispinosa
Felt, N. Y. St. Mus. Mem. 8, 613, 1906.

Achorutes armatum
Popenoe, U. S. C. 155, 6, 1912.

Achorutes nivicola
Herrick, Household Ins. 376, 1914.

Achrastenus griseus
U. S. Y. B., 1905, 632.

Acidia fratria
Chittenden, Ins. Inj. Veg. 184, 1907.
Chittenden, U. S. B. 82, 9, 1909.

Aclerda californica
Carnes, Cal. Hort. Comm. Bien. R. 2, 194, 1907.

Acleris minuta
Dean & Peairs, Kans. Agr. Educ. VI, 2, 128, 1913.
Franklin, Mass. B. 115, 13, 1907.
Franklin, Mass. B. 126, 7, 1908.
Franklin, J. Ec. Ent. II, 46, 1909.
Gossard, Ohio B. 198, 43, 1908.
Hardenburg, Wis. Cranb. Grow. Assoc., 20th Meet., 4, 1907.
Hardenburg, Wis. B. 159, 11, 1908.
Hardenburg & Malde, Wis. R. 24, 310, 1907.
Haseman, Mo. Hort. Soc., 1911, 243.
Herrick, Rur. N. Y., 1912, 263.
Moore, Wis. B. 190, 19, 1910.
Munson, Me. Dept. Agr. Quart. B., vol. IV, 1, 15, 1905.
O'Kane, Inj. Ins. 300, 306, 1914.
Patch, Me. B. 134, 220, 1906.
Peltier, Wis. Cranb. Grow. Assoc., 25th Ann. Meet., 10, 1912.
Slingerland & Crosby, Man. Fr. Ins. 59, 462, 1914.
Smith, N. J. R., 1905, 563.
Webster, J. Ec. Ent. II, 211, 1909.
Webster, J. Ec. Ent. III, 504, 1910.

Acmaeodera pulchella
Burke, U. S. Y. B., 1909, 406.

Acordulecera maura
Herrick & Harned, J. Ec. Ent. II, 293, 1909.

Acraspis erinacei
Felt, N. Y. St. Mus. Mem. 8, 627, 1906.

Acrobasis caryae
Britton, J. Ec. Ent. VI, 198, 1913.
Kirk, Conn. R. 12, 253, 1913.

Acrobasis feltella
Felt, N. Y. R. 25, 71, 1910.

Acrobasis nebulella
Chittenden, Nut. Grow., Jan. 1906, 108.
Gossard, Fla. B. 79, 292, 1905.
Herrick, Tex. B. 124, 4, 1909.
Williams, Ala. Poly. B. 155, 47, 1911.
Worsham, Ga. Bd. Ent. B. 33, 119, 1910.
Worsham, Ga. Hort. Soc., 1910, 119.

Acrobasis rubifasciella
Johannsen, Me. B. 177, 22, 1910.
Patch, Me. B. 162, 356, 1908.

Acrobasis sp.
Barre & Conradi, S. C. B. 141, 45, 1909.
Britton, Rur. N. Y., 1913, 422.

Acrobasis vaccinii, *see* **Mineola**

Acronycta, *see* **Apatela**

Actia pilipennis
Felt, N. Y. R. 27, 100, 1912.

Adalia bipunctata
Britton, Conn. B. 181, 17, 1914.
Burgess & Collins, U. S. Y. B., '11, 454.
Davidson, U. S. D. A. B. 100, 38, 1914.
Felt, N. Y. R. 25, 86, 1910.
Felt, N. Y. R. 28, 106, 1913.
Herrick, J. Ec. Ent. IV, 222, 1911.
Herrick & Hungate, N. Y. C. B. 300, 1911, 736.
Howard, U. S. R. Ent., 1906, 12.
Johnson, Ent. News, 1907, 173.
Patch, Me. B. 147, 248, 1907.
Symons, Md. B. 101, 196, 1905.
Weiss, J. Ec. Ent. VI, 408, 1913.

Adalia humeralis
Britton, Conn. B. 181, 18, 1914.
Davidson, U. S. D. A. B. 100, 38, 1914.
Essig, Cal. Hort. B. II, 1–2, 206, 1913.

Adalia melanopleura
Davidson, U. S. D. A. B. 100, 39, 1914.

Adelencyrtus sp.
Young, Pr. Columbus Hort. Soc., '06, 76.

Adelges abieticolens
Smith, N. J. R. 378, 1909.

Adimonia cavicollis
——— U. S. Y. B., 1907, 547.

Adistemia watsoni
Webster, Pr. Ent. Soc. Wash. X, 3, 1908.

Admontia pergandei
Hyslop, U. S. B. 85, 128, 1910.

Adoxus obscurus
Branigan, Cal. Hort. B. II, 7, 585, 1913.
Ehrhorn, Pac. Rur. Press, LXXVI, 404, 1908.
Essig, Cal. Hort. B. II, 1–2, 225, 1913.
Johnson & Hammar, U. S. B. 89, 15, '10.
Quayle, Cal. B. 195, 1908.
Quayle, J. Ec. Ent. I, 175, 1908.
Slingerland & Crosby, Man. Fr. Ins. 451, 1914.

Adoxus vitis
Isaac, Cal. Cult. XXV, 30, 1905.
Quayle, J. Ec. Ent. I, 175, 1908.
Quayle, Pac. Rur. Press, LXXXIII, 607, 1912.
Sanderson, Ins. Pests, 504, 1912.
——— U. S. Y. B., 1907, 547.

Aedes calopus, *see* **Stegomyia**

Aedes sollicitans, *see* **Culex**

Aegeria apiformis
Felt, N. Y. St. Mus. Mem. 8, 472, 1906.

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Aegeria pictipes, *see* **Synanthedon**

Aegeria tibialis
Felt, N. Y. St. Mus. Mem. 8, 472, 1906.

Aegeria tipuliformis, *see* **Sesia**

Aenoplegimorpha phytonomi
Webster, U. S. B. 112, 34, 1912.

Aenoplex sp. on codling moth
Doten, Nev. B. 66, 36, 1908.

Aeoloplus regalis
Bruner, U. S. B. 54, 61, 1905.

Aeolothrips bicolor
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Aeolothrips fasciatus
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Agallia bigeloviae
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Agallia cinerea
Ball, U. S. B. 66, 51, 1909.

Agallia quadripunctata
Ball, U. S. B. 66, 51, 1909.

Agallia sanguinolenta
Ball, U. S. B. 66, 51, 1909.
Osborn, U. S. B. 108, 103, 1912.
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Agathis vulgaris
Paddock, J. Ec. Ent. V, 442, 1912.

Agelastica alni
Britton, Conn. R. 12, 292, 1913.

Agonoderus pallipes
Forbes, Ill. Ent. R. 23, 178, 1905.
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Swenk, Nebr. Bd. Agr. R. f., 1909, 244.
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Washburn, U. S. B. 67, 15, 1907.

Webster, U. S. B. 69, 60, 1907.
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Agrilus anxius
Burke, U. S. Y. B., 1909, 403.
Davis, Jr. Ec. Ent. III, 184, 1910.
Felt, N. Y. St. Mus. Mem. 8, 284, 1905.
Felt, N. Y. R. 25, 98, 1910.
Felt, N. Y. R. 27, 108, 1912.
Felt, Gard, Mag. Feb. 1912, 36.
Felt, N. Y. R. 28, 101, 1913.
Fernald, J. Ec. Ent. V, 246, 1912.
Fernald, Mass. R. 24, I, 83, 1912.
Fernald, Mass. R. 25, II, 85, 1913.
Forbes, Ill. B. 151, 515, 1911.
Forbes, Ill. Ent. R. 26, 53, 1911.
Gibson, Ont. Ent. Soc. R. 40, 13, 1910.
Sanders, Wis. B. 227, 22, 1912.
Slingerland, N. Y. C. B. 234, 1906.
Smith, N. J. R., 1909, 415.
Smith, N. J. R., 1910, 348.
Swaine, Ont. Ent. Soc. R. 43, 91, 1913.
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Washburn, Minn. R. 14, 57, 1912.
——— U. S. Y. B., 1907, 550.
——— U. S. Y. B., 1908, 578.

Agrilus bilineatus
Anderson & Rankin, N. Y. C. B. 347, 586, 1914.
Britton, Conn. R. 13, 250, 1914.
Burgess, U. S. F. B. 564, 5, 1914.
Burke, U. S. Y. B., 1909, 401.
Felt, N. Y. St. Mus. Mem. 8, 280, 1905.
Felt, N. Y. R. 27, 113, 1912.
Felt, J. Ec. Ent. VII, 373, 1914.
Howard, U. S. R. Ent., 1914, 11.
Metcalf & Collins, U. S. F. B. 467, 10, 1911.
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——— U. S. Y. B., 1906, 515.
——— U. S. Y. B., 1908, 574, 578.

Agrilus champlaini
Britton, Conn. R. 12, 291, 1913.

Agrilus politus
Childs, Cal. Hort. B. III, 3, 150, 1914.
Weiss, J. Ec. Ent. VII, 438, 1914.

Agrilus ruficollis
Caesar, Ont. Ent. Soc. R. 42, 31, 1912.
Dean & Peairs, Kans. Agr. Educ. VI, 2, 112, 1913.
Gossard, Ohio B. 164, 24, 1905.
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Hitchings, Me. Ent. R. 5, 4, 1910.
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Slingerland & Crosby, Man. Fr. Ins. 332, 1914.
Somes, Mo. Fr. Exp. St. Bien. R., 1913–1914, 15.
Washburn, Minn. C. 29, 1914.

Agrilus sinuatus
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Smith, N. J. Ent. C. 28.
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Weiss, J. Ec. Ent. VII, 251, 1914.

Agrilus sp.
——— U. S. Y. B., 1908, 578.

Agrilus sp. in live oak
Doane, J. Ec. Ent. V. 347, 1912.

Agrilus vittaticollis
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Agriotes mancus
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Agromyza aeneiventris
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Felt, N. Y. St. Mus. Mem. 8, 634, 1906.

Agromyza angulata
Webster & Parks, J. Agr. Res. I, 83, '13.

Agromyza coquillettii
Webster & Parks, J. Agr. Res. I, 84, '13.

Agromyza melampyga
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Agromyza parvicornis
Houser, Ohio B. 251, 79, 1912.
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Agromyza pruinosa
Greene, J. Agr. Res. I, 471, 1914.

Agromyza pusilla
Webster & Parks, J. Agr. Res. I, 59, '13.

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McGregor, J. Ec. Ent. VII, 447, 1914.

Agromyza simplex
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Chittenden, Ins. Inj. Veg., 97, 1907.
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Essig, Cal. Hort. B. II, 1–2, 251, 1913.
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——— U. S. Y. B., 1906, 510.
——— U. S. Y. B., 1908, 570.

Agromyza virens
Webster & Parks, J. Agr. Res. I, 85, '13.

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Agrostis sp.
Bethune, Ont. Agr. Coll. B. 158, 31, '07.

Agrostis ypsilon
Bethune, Ont. Ent. Soc. R. 39, 131, '09.
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Cooley, Mont. R. 12, 269, 1906.
Forbes, Ill. Ent. R. 23, 21, 1905.
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Alabama argillacea
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Caesar, Ont. Ent. Soc. R. 43, 83, 1913.
Conradi, Tex. Stockm. Farm., Sept. 18, 1907, 2.
Douglass, Ind. Ent. R. 4, 232, 1912.
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Morrill, Ariz. Comm. Agr. & Hort. R. 6, 39, 1914.
Newell, Farm & Ranch, Aug. 11, '06, 17.
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Amempheres sp. on pickle worm
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American copper, *see* **Heodes hypophlaeas**
American dagger-moth, *see* **Apatela americana**
American disinfectant
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American gadfly, *see* **Tabanus americanus**
American locust, *see* **Schistocerca americana**
American tent-caterpillar, *see* **Malacosoma americana**
American walnut aphis, *see* **Callipterus caryae**
Amicroplus sp.
Herrick, N. Y. C. B. 311, 286, 1912.
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Chittenden, U. S. B. 109, 21, 1911.
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Somes, Mo. Fr. Exp. Sta. Bien. R., 1913–1914, 14.
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Knapp, South. Cult. Dec. 15, 1910, 6.
Knapp, U. S. F. B. 422, 9, 1910.

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Stringfellow, Farm & Ranch, Aug. 31, 1907, 3.

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Pierce, U. S. B. 100, 9, 1912.

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Barnes, Farm & Ranch, Apr. 21, '06, 17.
Barnes, Farm & Ranch, Apr. 29, '05, 16.
Lomas, Farm & Ranch, May 2, 1908, 7.
Marston, Farm & Ranch, May 27, '05, 6.

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Morrill, S. W. Stockm., Oct. 31, '13, 14.
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Pierce, J. Agr. Res. I, 90, 1913.

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Pierce, U. S. B. 100, 77, 1912.

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Pierce, U. S. B. 73, 46, 1908.
Pierce, U. S. B. 100, 76, 1912.

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Adams, Ark. B. 92, 16, 1907.
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Cooley, Mont. B. 92, 61, 1912.

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Pierce, U. S. B. 63, 42, 1907.
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Essig, Cal. Hort. B, II, 1–2, 108, 1913.
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Apanteles algonquinus
Sanderson, U. S. B. 57, 36, 1906.
Apanteles carduicola
Sanderson, U. S. B. 57, 42, 1906.
Apanteles catalpae
Burgess, Ohio Nurs. Orch. Insp. R. 4, 14, 1906.
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Britton, Conn. R. 6, 271, 1907.
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Howard & Fiske, U. S. B. 91, 285, '11.
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Wildermuth, U. S. D. A. B. 124, 21, '14.
Apanteles fulvipes
Fiske, Mass. For. R. 6, 90, 1910.
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Chittenden, U. S. B. 54, 79, 1905.
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Davis, Ill., Ent. R. 27, 100, 1912.
Houghton, Del. R. 16–17–18, 89, 1907.
Matheson, Can. Ent., 1907, 205.
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Apanteles hyslopi
Hyslop, U. S. B. 95, 116, 1912.

Apanteles lacteicolor
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Webster, J. Ec. Ent. IV, 181, 1911.

Apanteles laphygmae
Sanderson, U. S. B. 57, 13, 1906.

Apanteles lunatus
Chittenden, U. S. B. 82, 23, 1909.

Apanteles melanocelis
Howard, U. S. R. Ent., 1914, 3.

Apanteles militaris
Garman, Ky. B. 137, 436, 1908.
Sanderson, U. S. B. 57, 10, 1906.

Apanteles solitarius
Howard, U. S. R. Ent., 1911, 11.
Howard, U. S. R. Ent., 1912, 9.
Howard & Fiske, U. S. B. 91, 189, 1911.

Apanteles sp.
Howard & Fiske, U. S. B. 91, 138, 1911.

Apanteles, sp. on Anthomyia
Smith, N. J. R., 1911, 450.

Apanteles sp. on cutworms
Chittenden, U. S. B. 109, 51, 1912.

Apanteles theclae
Sanderson, U. S. B. 57, 40, 1906.

Apantesis arge
Baldwin, Ind. Ent. R. 6, 30, 1914.
Forbes, Ill. Ent. R. 23, 75, 1905.
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Forbes, Ill. Ent. R. 23, 76, 1905.

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Felt, N. Y. St. Mus. Mem. 8, 525, 1906.

Apatela funeralis
Johannsen, Me. B. 207, 455, 1912.

Apatela interrupta
Gossard, Ohio B. 233, 118, 1911.

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Felt, N. Y. St. Mus. Mem. 8, 560, 1906.
Forbes, Ill. Ent. R. 23, 170, 1905.
Gossard, Ohio B. 233, 150, 1911.
O'Kane, Inj. Ins. 275, 1914.

Apatela populi
Forbes, Ill. B. 151, 468, 1911.
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Apatela sp.
Swenk, Nebr. Hort. Soc., 1909, 83.

Apatela superans
Gossard, Ohio B. 233, 119, 1911.

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Felt, N. Y. St. Mus. Mem. 8, 549, 1906.

Apatelicus *see* **Podisus**

Aphaenogaster aquia
Brooks, W. Va. R. f., 1909–1910, 190.

Aphaenogaster fulva
Smith, N. J. B. 225, 17, 1909.

Aphaereta pegomyiae
Washburn, Minn. R. 12, 131, 1908.

Aphaereta sp.
Chittenden, U. S. B. 66, 96, 1909.

Aphalara polygoni
Johannsen & Patch, Me. B. 195, 235, '11.

Aphalara veaziei
Patch, Me. B. 187, 16, 1911.

Aphanogmus floridanus
McGregor, J. Ec. Ent. VII, 330, 1914.

Aphanogmus varipes
Chittenden, U. S. C. 104, 6, 1909.

Aphelinus abnormis
Quaintance & Sasscer, U. S. C. 121, 6, 1910.

Aphelinus diaspidis
Essig, Cal. Hort. B. II, 1–2, 278, 1913.
Quaintance & Sasscer, U. S. C. 121, 6, 1910.
Quayle, J. Ec. Ent. III, 398, 1910.

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Aphelinus fuscipennis
Caesar, Ont. Agr. Coll. B. 219, 17, 1914.
Cotton, Ohio Nurs. Orch. Insp. B. 7, 33, 1906.
Felt, N. Y. Fr. Grow. Assoc., 1914, 164.
Hayhurst, Ark. B. 107, 376, 1911.
Marlatt, U. S. B. 62, 58, 1906.
Quaintance, U. S. C. 124, 10, 1910.
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Quayle, Cal. B. 214, 480, 1911.
Quayle, J. Ec. Ent. IV, 510, 1911.
Zimmer, U. S. B. 97, 119, 1912.

Aphelinus mali
Gillette & Taylor, Colo. B. 133, 26, 1908.
Smith, Nebr. Bd. Agr. R. f., 1908, 322.
Webster & Phillips, U. S. B. 110, 122, 1912.

Aphelinus mytilaspidis
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Folsom, Ill. B. 134, 152, 1909.

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Gahan, J. Ec. Ent. IV, 424, 1911.

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Herrick, J. Ec. Ent. IV, 222, 1911.
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Pierce, U. S. B. 100, 48, 1912.

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Wildermuth, U. S. D. A. B. 124, 24, '14.
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Pierce, U. S. B. 100, 48, 1912.
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Walden, Conn. R. 10, 693, 1911.
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Aphis carbocolor
Gillette, J. Ec. Ent. I, 178, 1908.

Aphis cerasifolii
Gillette, J. Ec. Ent. III, 405, 1910.

Aphis citri
Essig, Pom. Jr. Ent. I, 47, 1909.

Aphis cookii
Essig, Pom. Jr. Ent. III, 587, 1911.
Essig, Cal. Hort. B. I, 4, 117, 1912.
Essig, Cal. Hort. B. II, 1–2, 61, 1913.

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Davidson, J. Ec. Ent. III, 377, 1910.

Aphis fitchii
Gossard, Ohio B. 198, 41, 1908.
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Aphis forbesi
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Gillette, J. Ec. Ent. I, 178, 1908.
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Houghton, Del. C. 2, 1907.
Moore, Wis. R. 23, 236, 1906.
Moore, Wis. R. 24, 374, 1907.
Moore, Wis. B. 190, 31, 1910.
Morrison, Ind. Ent. R. 5, 219, 1912.
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Sanders, Wis. B. 227, 19, 1912.
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Aphis gladioli
Felt, J. Ec. Ent. I, 330, 1908.
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Patch, Me. B. 202, 176, 1913.
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Chittenden, U. S. C. 80, 1, 1906.
Chittenden, Ins. Inj. Veg. 165, 1907.
Conradi, U. S. B. 60, 68, 1906.
Cook, Cal. Hort. I, 2, 64, 1912.
Davis, J. Ec. Ent. III, 180, 1910.
Davis, Ill. Ent. R. 26, 120, 1911.
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Essig, Pom. Jr. Ent. II, 223, 1910.
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Essig, Cal. Hort. B. 1, 4, 120, 1912.
Essig, Cal. Hort. B. II, 1–2, 61, 1913.
Fulton, Wright & Gregg, Pa. B. 110, 27, 1911.
Gahan, Md. B. 119, 18, 1907.

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Gillette, U. S. B 52, 60, 1905.
Gillette, Colo. R. 19, 142, 1906.
Gillette, J. Ec. Ent. I, 176, 1908.
Gillette, J. Ec. Ent. III, 404, 1910.
Glynn, C. Gentl., 1906, 676.
Green, Nat'l Fr. Grow., July 1905, 10.
Green, Tex. B. 94, 17, 1907.
Headlee, Kans. Farm., Aug. 20, '08, 882.
Howard, U. S. R. Ent., 1906, 8, 22.
Hunter, U. S. F. B. 344, 39, 1909.
Hunter, U. S. F. B. 512, 39, 1912.
Kyle & Conradi, Tex. Stockm. Farm., July 17, 1907, 6.
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Lovett, Oreg. Coll. B. 91, 27, 1913.
Moore, Minn. R. 15, 68, 1914.
Morrill, S. W. Stockm., Aug. 7, 1914, 8.
Morrill, Ariz. Comm. Agr. & Hort. R. 6, 34, 37, 1914.
Morrison, Ind. Ent. R. 5, 221, 1912.
O'Kane, Inj. Ins. 199, 1914.
Pettit, Mich. B. 233, 180, 1906.
Price, Va. C. 7, 58, 1909.
Quayle, Cal. B. 214, 493, 1911.
Reed, Ga. Hort. Soc. f., 1914, 56.
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Smith, N. C. B. 205, 15, 1910.
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Smith, U. S. B. 67, 101, 1907.
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Swenk, Nebr. Bd. Agr. R. f., 1910, 369.
Swenk, Nebr. P. B. 34, 1911.
Swenk, S. W. Stockm., July 11, 1911, 1.
Symons, Md. B. 101, 182, 1905.
Thornber, Field & Farm, June 8, 1907, 5.
Thornber, S. W. Stockm., May 1, '08, 4.
Tucker, Kans. Farm., July 19, 1906, 748.
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Wilson, Oreg. Bien. Crop Pest R. f., 1911–1912, 95.

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Aphis houghtonensis
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Felt, N. Y. R. 25, 78, 86, 1910.
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Kohler, Iowa Agric., Nov., 1905, 84.
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Popenoe, Kans. Farm., June 13, '07, 706.
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Sherman, J. Ec. Ent. II, 203, 1909.
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Smith, Nebr. Bd. Agr. R. f., '1908, 317.
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Swenk, Nebr. Bd. Agr. R. f., 1910, 365.
Swenk, Nebr. Ent. B. 1, 72, 1913.
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Howard, U. S. R. Ent., 1911, 26.
O'Kane, Inj. Ins. 198, 1914.
Patch, Me. B. 202, 173, 1913.
Pettit, Mich. B. 233, 206, 1906.
Sanderson, Ins. Pests, 170, 1912.
Smith, Nebr. Bd. Agr. R. f., 1908, 319.
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Swenk, J. Ec. Ent. IV, 286, 1911.
Swenk, Nebr. Ent. B. 1, 78, 1913.
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Hitchings, Me. Ent. R. 5, 7, 1910.
Lamson, Conn. Storrs, B. 71, 66, 1912.
Lewis, Pr. Ga. Hort. Soc., 1907, 120.
Moore, Wis. R. 23, 234, 1906.
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Felt, N. Y. R. 25, 77, 1910.
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Quaintance, U. S. C. 81, 7, 1907.
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Chittenden, U. S. B. 64, 40, 1908.
Gillette, J. Ec. Ent. I, 177, 1908.
Gillette & Taylor, Colo. B. 133, 32, 1908.
Sanderson, U. S. B. 57, 26, 1906.
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Aphis middletoni
Vickery, U. S. B. 85, 113, 1910.

Aphis neri
Essig, Pom. Jr. Ent. III, 530, 1911.
Essig, Cal. Hort. B. II, 1–2, 66, 1913.

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Gillette, J. Ec. Ent. I, 178, 1908.

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Bentley, Tenn. Bd. Ent. R. f., 1913, 28.
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Chittenden, U. S. B. 64, 30, 1908.
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Apple curculio, *see* **Anthonomus quadrigibbus**
Apple-fruit maggot, *see* **Rhagoletis pomonella**
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Apple-leaf flea-weevil, *see* **Orchestes pallicornis**

Apple leaf-hopper, *see* **Empoasca mali**

Apple leaf roller, *see* **Acleris**

Apple leaf-miner, *see* **Tischeria malifoliella**

Apple leaf-sewer, *see* **Ancylis nubeculana**

Apple-leaf skeletonizer, *see* **Canarsia hammondi**

Apple leaf trumpet miner, *see* **Tischeria malifoliella**

Apple maggot, *see* **Rhagoletis pomonella**

Apple miner, peculiar
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Apple miner under skin
Wilson, Oreg. Bien. Crop Pest R. f., 1913–14, 200.

Apple red bug, *see* **Heterocordylus malinus and Lygidea mendax**

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Apple-tree pruner, *see* **Elaphidion villosum**

Apple-tree tent-caterpillar, *see* **Malacosoma americana**

Apple twig-beetle, *see* **Stephanoderes hispidulus**

Apple twig-borer, *see* **Amphicerus bicaudatus**

Apple worm, *see* **Carpocapsa pomonella**

Apricot leaf-weevil, *see* **Paratochus sellatus**

Apricot scale, *see* **Eulecanium armeniacum**

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Archips cerasivorana

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Archips fervidana

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Hardenberg, Wis. B. 159, 17, 1908.

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Archips parallela

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Archips rosana

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Archips sorbiana

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Archips sp.

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Destructive pea aphis, *see* **Macrosiphum pisi**
Destructive pine bark-beetle, *see* **Dendroctonus frontalis**
Destructive spruce-wood borer, *see* **Tetropium cinnamopterum**
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Alderman, Giddings & Rumsey, W. Va. C. 7, 33, 1913.
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Metcalf, N. C. Dept. Agr. Sp. B. 58, '09.
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Britton, Conn. R. 6, 274, 1907.
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Eucoila impatiens
Marlatt, U. S. C. 115, 7, 1910.
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Smith, U. S. B. 67, 105, 1907.
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Euderus lividus
Forbes, Ill. Ent. R. 24, 128, 1908.

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Eudoromyia magnicornis
Howard, U. S. R. Ent., 1911, 10.
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Eudryas grata
Bethune, Ont. Agr. Coll. B. 158, 30, '07.

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Eugonia subsignarius, *see* **Ennomos**

Eulecanium armeniacum, *see* **Eulecanium persicae**

Eulecanium aurantiacum
Douglass, Ind. Ent. R. 4, 169, 1912.

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Britton, Conn. R. 5, 238, 1906.
Fletcher, Ont. Ent. Soc. R. 37, 86, '07.
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Douglass, Ind. Ent. R. 4, 170, 1912.
Jarvis, Ont. Ent. Soc. R. 38, 66, 1908.
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Britton, Conn. B. 151, 8, 1905.
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Britton, J. Ec. Ent. IV, 544, 1911.
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Essig, Cal. Hort. B. II, 1–2, 119, 1913.
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Carnes, Cal. Hort. Comm. Bien. R. 2, 190, 1907.

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Douglass, Ind. Ent. R. 4, 173, 1912.

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Britton, Conn. R. 5, 238, 1906.

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Barre & Conradi, S. C. B. 141, 38, 1909.
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Gahan, Md. B. 123, 155, 1907.

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Bentley, Tenn. B. v. XIX, 2, 34, 1906.
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Eulecanium prunastri
Gossard, Ohio B. 198, 58, 1908.
Gossard, Ohio B. 233, 121, 1911.
Sanders, J. Ec. Ent. II, 446, 1909.

Eulecanium pubescens
Carnes, Cal. Hort. Comm. Bien. R. 2, 191, 1907.

Eulecanium quercifex
Felt, N. Y. R. 21, 101, 1906.
Gee, J. Ec. Ent. V, 484, 1912.
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Popenoe, Kans. Farm., June 14, '06, 641.

Eulecanium sp. *on pecan*
Gossard, U. S. Y. B., 1907, 548, 551.

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Dean & Peairs, Kans. Agr. Educ. VI, 2, 83, 1913.

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Eulecanium tulipiferae
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Felt, N. Y. St. Mus. Mem. 8, 681, 1906.

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Johannsen, Me. B. 207, 454, 1912.
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Felt, N. Y. St. Mus. Mem. 8, 532, 1906.
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Felt, N. Y. R. 27, 119, 1912.

Eumicrosoma benefica
McColloch, J. Ec. Ent. VII, 219, 1914.

Eunotus lividus
Cotton, Ohio Nurs. Orch. Insp. B. 7, 25, 1906.
Johnson, Colo. B. 116, 11, 1906.
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Smith, N. J. R., 1905, 606.

Eunotus sp.
Patch, Me. B. 121, 171, 1905.

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Eupelmus allynii
Burgess, U. S. B. 60, 71, 1906.
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Kelly, J. Ec. Ent. III, 202, 1910.
Webster, U. S. C. 70, 12, 1906.
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Hunter, Pratt & Mitchell, U. S. B. 113, 32, 1912.

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Sherman, N. C. Dept. Agr. B. 29, 6, 53, 1908.
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Howard & Chittenden, U. S. C. 96, 5, 1907.
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European fruit-scale, *see* **Aspidiotus ostreaeformis**

European grain-aphis, *see* **Siphocoryne avenae**

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Shaw, U. S. D. A. B. 104, 2, 1914.
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Quaintance & Brues, U. S. B. 50, 127, 1905.

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Chittenden, U. S. B. 82, 90, 1911.

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Chittenden, U. S. B. 64, 38, 1908.
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Smith, N. J. R., 1908, 355.

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Chittenden, U. S. B. 82, 90, 1911.

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Essig, Cal. Hort. B. II, 1–2, 163, 1913.

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Doten, Nev. R. f., 1911, 35.

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Cooley, Mont. B. 64, 40, 1906.
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Fletcher, Ont. Ent. Soc. R. 35, 51, '05.
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Doten, Nev. R. f., 1912, 38.

Euxoa tessellata
Chittenden, U. S. Y. B., 1912, 332.
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Marlatt, U. S. C. 51 Rev., 11, 1908.

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Quaintance & Jenne, U. S. B. 103, 154, 1912.

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Quaintance & Jenne, U. S. B. 103, 154, 1912.

Evarthrus sodalis
Hunter & Pierce, U. S. B. 114, 137, '12.
Newell & Treherne, J. Ec. Ent. I, 244, 1908.
Pierce, U. S. B. 100, 68, 1912.

Evarthrus sp. on boll weevil
Hunter & Pierce, U. S. B. 114, 137, '12.

Evergestis rimosalis
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Larger chestnut weevil, *see* **Balaninus proboscideus**

Larger corn stalk-borer, *see* **Diatraea zeacolella**

Larger elm leaf-beetle *see* **Monocesta coryli**

Larger fir-tree bark-beetle, *see* **Hylesinus granulatus**

Larger grain-borer, *see* **Dinoderus truncatus**

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Burgess, U. S. B. 52, 54, 1905.
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Hopkins, U. S. Y. B., 1907, 153.

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Conradi, Tex. B. 89, 35, 1907.
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Patch, Me. B. 148, 265, 1907.
Macrocheles sp. on boll weevil
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Marsh, U. S. B. 127, 17, 1913.
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Howard, U. S. B. 88, 33, 1910.
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Hunter, Pratt & Mitchell, U. S. B. 113, 20, 1912.
Mindarus abietinus
Patch, Me. B. 182, 243, 1910.
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Pempelia hammondi, *see* **Canarsia**

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Essig, Cal. Hort. B. II, 1–2, 53, 1913.

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Patch, Me. B. 213, 75, 1913.

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Felt, N. Y. R. 26, 65, 1911.
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Phorbia cinerella
Johannsen, Me. B. 187, 6, 1911.

Phorbia fusciceps, *see* **Pegomyia**

Phorbia rubivora
O'Kane, Inj. Ins. 245, 1914.
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Slingerland & Crosby, Man. Fr. Ins. 329, 1914.
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Phorbia spp.
Bethune, Ont. Agr. Coll. R. 32, 48, '07.
Lochhead, Syn. Ec. Ent. 93, 1914.

Phormia regina
Felt, N. Y. R. 28, 75, 1913.
Johannsen, Me. B. 187, 6, 1911.

Phormia terraenovae
Howard, U. S. C. 71, 2, 1906.
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Phorocera comstocki
Hunter, Pratt & Mitchell, U. S. B. 113, 27, 1912.

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Chittenden, U. S. B. 109, 21, 1911.

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Garman, Ky. B. 137, 436, 1908.
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Brooks, W. Va. B. 107, 28, 1907.

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Phoxopteris fragariae
Gossard, Ohio B. 233, 148, 1911.

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Doane, J. Ec. Ent. V, 346, 1912.
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Phthorimaea operculella—*Quarantine*
Cook, S. W. Stockm., Apr. 3, 1914, 10.

Phycis indiginella, *see* **Mineola**

Phygadeuon brevis
Quaintance, U. S. Y. B., 1907, 443.

Phygadeuon neodiprioni
Swenk, Nebr. R. 24, 29, 1911.

Phygadeuon n. sp. on Diprion
Swenk, Nebr. R. 24, 29, 1911.

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Phygadeuon sp. on alfalfa weevil
Webster, U. S. B. 112, 38, 1912.

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Stewart, N. Y. St. B. 328, 351, 1910.

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Moore, Wis. B. 190, 24, 1910.

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Jordan, N. Y., St. B. 393, 650, 1914.
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Davis, J. Ec. Ent. III, 181, 1910.
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Gibson, Ont. Ent. Soc. R. 43, 13, 1913.
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Chittenden, Ins. Inj. Veg., 147, 1907.

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Forbes, Ill. Ent. R. 23, 109, 1905.
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Phyllotreta sinuata
Duporte, Can. Ent., 1914, 433.
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Phyllotreta vittata
Bethune, Ont. Agr. Coll. B. 171, 36, '09.
Chittenden, Ins. Inj. Veg., 146, 1907.
Davis, Ill. Ent. R. 26, 113, 1911.
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Gibson, Ont. Ent. Soc. R. 43, 13, 1913.
Lochhead, Syn. Ec. Ent. 76, 1914.
Lochhead & Jarvis, Ont. Agr. Coll. B. 150, 31, 1906.
O'Kane, Inj. Ins. 158, 1914.
Patch, Me. B. 123, 217, 1905.
Pettit, Mich. B. 233, 172, 1906.
Sanborn, Okla. B. 100, 56, 1912.
Sanderson, Ins. Pests, 375, 1912.
Schoene, N. Y. St. B. 334, 15, 1911.
Smith, N. C. R. 33, 32, 1910.
——— U. S. Y. B., 1906, 511.
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Phylloxera caryaecaulis
Felt, N. Y. St. Mus. Mem. 8, 331, 1905.
Felt, N. Y. R. 21, 99, 1906.
Felt, N. Y. R. 25, 82, 1910.
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Weiss, N. J. R., 1912, 428.
——— U. S. Y. B., 1908. 579.

Phylloxera foveola
Felt, N. Y. St. Mus. Mem. 8, 629, '06.

Phylloxera notabilis
Chittenden, Nut Grow., Sept. 1905, 19.
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——— U. S. Y. B., 1905, 636.
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Phylloxera perniciosa
Chittenden, Nut Grow., May '09, 4.
Tucker, La. Crop Pest Notice 2, 1914.
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Phylloxera vastatrix
Aldrich, Idaho B. 46, 3, 1905.
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Bethune, Ont. Agr. Coll. B. 158, 32, '07.
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Essig, Cal. Hort. B. II, 1–2, 47, 1913.
Gossard, Ohio B. 233, 133, 1911.
Howard, U. S. R. Ent., 1912, 24.
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Morrill, J. Ec. Ent. VI, 190, 1913.
O'Kane, Inj. Ins. 227, 1914.
Sanderson, Ins. Pests, 493, 1912.
Slingerland & Crosby, Man. Fr. Ins. 455, 1914.
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Symons, Md. B. 101, 152, 1905.
Tucker, La. Crop Pest Notice 2, 1914.
Washburn, Minn. R. 12, 141, 1908.
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Phylloxera vastatrix—*Quarantine*
Cal. Hort. B. I, 13, 952, 1912.

Phylloxera vitifoliae, *see* **P. vastatrix**

Phymatodes dimidiatus
Felt, N. Y. St. Mus. Mem. 8, 669, '06.

Phymatodes variabilis
Felt, N. Y. St. Mus. Mem. 8, 433, '06.

Physcus sp. on grape scale
Zimmer, U. S. B. 97, 119, 1912.

Physcus varicornis
Marlatt, U. S. B. 62, 60, 1906.
Quaintance, U. S. C. 124, 10, 1910.
Smith, Nebr. Hort. Soc. B. 20, 10, 1908.
Surface, Pa. D. A. Zoöl. V, 2, 58, 1907.
Zimmer, U. S. B. 97, 119, 1912.

Physocnemum brevilineum
Felt, N. Y. St. Mus. Mem. 8, 462, 1906.

Physokermes insignicola
Carnes, Cal. Hort. Comm. Bien. R. 2, 195, 1907.

Physostegania pustularia
Hardenberg, Wis. B. 159, 18, 1908.
Phytocoris eximius
Felt, N. Y. St. Mus. Mem. 8, 685, 1906.
Phytodecta pallida
Felt, N. Y. St. Mus. Mem. 8, 558, 1906.
Phytodietus vulgaris
Herrick, N. Y. C. B. 311, 286, 1912.
Phytomyza chrysanthemi
Britton, Conn. R. 11, 342, 1912.
Fernald, Mass. R. 23, I, 78, 1911.
Fernald, Mass. R. 26, I, 55a, 1914.
Sanders, J. Ec. Ent. V, 472, 1912.
Smulyan, Mass. B. 157, 21, 1914.
Treherne, Pr. Ent. Soc. B. C., 4, 30, '14.
Phytomyza lateralis
Cooley, Mont. B. 92, 60, 1912.
Phytonomus meles
Felt, N. Y. R. 27, 98, 1912.
Felt, J. Ec. Ent. VI, 283, 1913.
Smith, N. J. R. 426, 1911.
Titus, Ann. Ent. Soc. Am. IV, 435, '11.
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Phytonomus murinus, *see* **P. posticus**
Phytonomus nigrirostris
Fletcher, Can. Exp. Farms B. 52, 29, '05.
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Houghton, J. Ec. Ent. I, 297, 1908.
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Webster, U. S. B. 85, 1, 1911.
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Phytonomus posticus
Ball, Deseret Farm., May 21, 1910, 3.
Ball, S. W. Stockm., Aug. 12, 1910, 1.
Ball, Deseret Farm., Mar. 25, 1911, 7.
Cook, Pom. Jr. Ent. III, 576, 1911.
Cook, Cal. Hort. B. I, 1, 19, 1911.
Cook, Cal. Cult., XXXIX, 224, 1912.
Cook, Cal. Cult., XLII, 633, 1914.
Cooley, Mont. B. 88, 88, 1912.
Cooley, Mont. B. 92, 61, 1912.
Cooley, Mont. C. 35, 191, 1914.
Dean, Kans. Farm., Mar. 22, 1913, 6.
Doten, Nev. B. 73½, 45, 1910.
Doten, Nev. R. f. 1911, 36.
Doten, Nev. R. f. 1912, 37.
Gillette, S. W. Stockm., Aug. 26, '10, 1.
Howard, U. S. R. Ent., 1910, 27.
Howard, U. S. R. Ent., 1911, 25.
Howard, U. S. R. Ent., 1912, 11, 27.
Howard, U. S. R. Ent., 1913, 6.
Howard, U. S. R. Ent., 1914, 9.
Kalmbach, U. S. D. A. B. 107, 1, 1914.
Jardine & Call. Kans. B. 197, 608, 1914.
Merrill, Cal. Hort. B. I, 10, 765, 1912.
Morrill, S. W. Stockm., Mar. 17, '11, 1.
Morrill, S. W. Stockm., June 6, '13, 10.
O'Kane, Inj. Ins. 162, 1914.
Parks, Idaho Exten. B. 7, 3, 1913.
Parks, J. Ec. Ent., VII, 417, 1914.
Sanderson, Ins. Pests, 205, 1912.
Titus, Deseret Farm., Sept. 26, 1908, 3.
Titus, Deseret Farm., Oct. 3, 1908, 11.
Titus, Deseret Farm., July 10, 1909, 10.
Titus, J. Ec. Ent. II, 149, 1909.
Titus, J. Ec. Ent. III, 459, 1910.
Titus, Utah B. 110, 19, 1910.
Titus, Ann. Ent. Soc. Am. IV, 452, 1911.
Titus, Deseret Farm., May 18, 1912, 762.
Titus, Utah Farm., Sept. 21, 1912, 136.
Titus, Utah C. 10, 1913.
Titus, Utah Farm., Apr. 26, 1913, 631.
Titus, Utah Farm., Feb. 14, 1914, 466.
Webb, Utah Farm., Aug. 3, 1912, 938.
Webb, Utah Farm., Aug. 23, 1913, 61.
Webster, Cal. Cult., XXXVII, 75, 1911.
Webster, S. W. Stockm., Apr. 28, '11, 1.
Webster, C. Gentl., Dec. 28, 1912, 7.
Webster, U. S. B. 112, 9, 1912.
Westgate, McKee & Evans, U. S. F. B. 495, 31, 1912.
——— Cal. Hort. Comm. Bien. R. 6, 12, 1914.
——— Deseret Farm., Apr. 13, '12, 687.
——— S. W. Stockm., May 28, 1909, 11.
——— S. W. Stockm., Mar. 1, 1912, 10.
——— U. S. Y. B., 1908, 569.
Phytonomus posticus—*Quarantine*
Cook, Cal. Hort. B. I, 10, 796, 1912.
Cook, Cal. Hort. Comm. Bien. R. 5, 13, 1912.
Morrill, Cal. Hort. B. I, 13, 952, 1912.
Parks, Idaho Ext. B. 7, 20, 1913.
——— Cal. Hort. B. I, 12, 924, 1912.
Phytonomus punctatus
Britton, Conn. R. 13, 255, 1914.
Fletcher, Can. Exp. Farms B. 52, 28, 1905.
Fletcher, Ont. Ent. Soc. R. 36, 84, 1906.
Folsom, Ill. B. 134, 155, 1909.
Folsom, Ill. Ent. R. 25, 83, 1909.
Garman, Ky. B. 125, 48, 1906.

Gossard, Ohio B. 198, 38, 1908.
Gossard, Ohio B. 233, 78, 1911.
Haseman, Mo. P. B. 38, 1914.
Lochhead, Syn. Ec. Ent. 81, 1914.
O'Kane, Inj. Ins. 164, 1914.
Pettit, Mich. B. 258, 282, 1910.
Sanderson, Ins. Pests, 203, 1912.
Smith, N. J. R., 1910, 351.
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Webster, U. S. C. 69, 1, 1906.
Webster, U. S. Y. B., 1907, 250.
Webster, J. Ec. Ent. III, 502, 1910.
Westgate & Hillman, U. S. F. B. 455, 39, 1911.
——— U. S. Y. B., 1905, 635.
——— U. S. Y. B., 1908, 569.

Phytophaga destructor, *see* **Mayetiola**

Phytopti
Cooper, Cal. Hort. Comm. Ins. & Insect., 22, 1905.

Phytoptus, *see* **Eriophyes**

Pickle worm, *see* **Diaphania nitidalis**

Picric acid
Smith, N. J. R., 1908, 367.

Pigeon tremex, *see* **Tremex columba**

Pieris, *see* **Pontia**

Pigmeophorus americanus
Hadwen, Can. Ent., 1911, 141.

Pimpla annulipes
Girault, U. S. B. 68, 45, 1907.
Jenne, U. S. B. 80, 30, 1909.
Quaintance, U. S. Y. B., 1907, 443.
Swenk, Nebr. Hort. Soc. B. 19, 16, '08.

Pimpla behrensii
Doane, J. Ec. Ent. V, 346, 1912.

Pimpla brassicariae
Howard & Fiske, U. S. B. 91, 238, 1911.

Pimpla conquisitor
Ainslie, U. S. B. 85, 88, 1910.
Britton, Conn. R. 13, 228, 1914.
Gill, U. S. B. 116, 102, 1913.
Gossard, Fla. B. 79, 295, 1905.
Haseman, Mo. B. 104, 324, 1912.
Herrick, N. Y. C. B. 283, 1910, 62.
Herrick, N. Y. C. B. 311, 286, 1912.
Hitchings, Me. Ent. R. 3, 12, 1908.
Howard & Fiske, U. S. B. 91, 138, 144, 1911.
Johannsen, Me. B. 210, 27, 1913.
Johnston, J. Ec. Ent. VI, 144, 1913.
Johnson & Hammar, U. S. B. 116, 48, 1912.
Patch, Me. B. 148, 265, 1907.
Sanderson, Ins. Pests, 246, 1912.
Schoene, N. Y. St. B. 312, 47, 1909.
Smith, N. J. R. 1907, 419.
Swenk, Nebr. Hort. Soc. B. 19, 16, '08.

Pimpla disparis
Howard & Fiske, U. S. B. 91, 238, '11.

Pimpla examinator
Howard & Fiske, U. S. B. 91, 237, 1911.

Pimpla inquisitor
Gossard, J. Ec. Ent. I, 188, 1908.
Haseman, Mo. B. 104, 324, 1912.
Howard & Chittenden, U. S. C. 97, 6, 1908.
Johannsen & Patch, Me. B. 195, 243, '11.
Schoene, N. Y. St. B. 312, 47, 1909.
Stene, R. I. Bd. Agr. R. 21, 61, 1906.
Swenk, Nebr. Ins. Pest. Bur. C. 6, 4, '08.
Swenk, Nebr. Hort. Soc. B. 19, 16, 1908.
Woods, Me. B. 137, 297, 1906.

Pimpla inquisitoriella
Howard & Fiske, U. S. B. 91, 237, '11.

Pimpla instigator
Howard & Fiske, U. S. B. 91, 237, 1911.

Pimpla masculator
Webster, U. S. B. 112, 39, 1912.

Pimpla ontario
Johannsen, Me. B. 210, 26, 1913.

Pimpla pedalis
Gill, U. S. B. 116, 102, 1913.
Hitchings, Me. Ent. R. 3, 12, 1908.
Howard & Fiske, U. S. B. 91, 137, 144, 1911.
Patch, Me. B. 161, 340, 1908.
Patch, Me. B. 162, 365, 1908.

Pimpla pluto
Howard & Fiske, U. S. B. 91, 238, '11.

Pimpla porthetriae
Howard & Fiske, U. S. B. 91, 238, 1911.

Pimpla pteralis
Brodie, Ont. Ent. Soc. R. 37, 5, 1907.

Pimpla sanguinipes
Ainslie, U. S. B. 85, 88, 1910.

Pimpla sp. on boll weevil
Hunter & Pierce, U. S. B. 114, 142, '12.
Pierce, U. S. B. 100, 52, 1912.

Pimpla sp. on codling moth
Doten, Nev. B. 66, 36, 1908.
Pimpla sp. on plum curculio
Quaintance & Jenne, U. S. B. 103, 148, 1912.
Pimpla sp. on Tmetocera
Scott & Paine, U. S. D. A. B. 113, 11, '14.
Pimpla spp.
Swenk, Nebr. Hort. Soc. B. 19, 14, '08.
Pimpla tenuicornis
Howard & Fiske, U. S. B. 91, 138, '11.
Pinacodera limbata
Hammar, U. S. B. 115, 74, 1912.
Pin-borer, *see* **Pterocyclon mali**
Pineapple scale, *see* **Diaspis bromeliae**
Pine butterfly, *see* **Neophasia menapia**
Pine-destroying beetle of Black Hills, *see* **Dendroctonus ponderosae**
Pine insects
Surface, Pa. D. A. Zoöl. II, 6, 250, 1912.
Pine leaf scale, *see* **Chionaspis pinifoliae**
Pinhole borers in cypress
Hopkins, U. S. B. 58, 1909.
Pinipestis zimmermani
Cosens, Ont. Ent. Soc. R. 42, 16, 1913.
Felt, N. Y. St. Mus. Mem. 8, 403, 1906.
Pinnaspis buxi
Davis, Ill. Ent. R. 27, 126, 1912.
Pioneer Quick Fly Exterminator
——— U. S. D. A. Ins. & Fung. Bd., Ins. 3, p. 38, 1914.
Piophila casei
Douglass, Ind. Ent. R. 2, 97, 1910.
Felt, N. Y. St. Mus. B. 129, 35, 1909.
Felt, N. Y. St. Mus. B. 136, 40, 1912.
Herrick, Household Ins. 288, 1914.
Mote, Ohio Nat., XIV, 309, 1914.
O'Kane, Inj. Ins. 358, 1914.
Smith, N. J. B. 203, 33, 1907.
Surface, Pa. D. A. Zoöl. III, 1, 21, 1913.
Whitmarsh, Ohio B. 253, 136, 1912.
——— U. S. Y. B., 1907, 552.
Pipiza radicum
Smith, Nebr. Bd. Agr. R. f. 1908, 322.
Pissodes affinis
Felt, N. Y. St. Mus. Mem. 8, 402, 1906.
Hopkins, U. S. Y. B., 1905, 254.
Pissodes costatus
Hopkins, U. S. Y. B., 1905, 253.
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Essig, Cal. Hort. B. II, 1–2, 109, 1913.
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Shot-borer, *see* **Xyleborus dispar**

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Ainslie, U. S. B. 85, 141, 1910.

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Wilson, Oreg. Bien. Crop Pest R. f. 1913–1914, 129.

Silver fish, *see* **Lepisma**

Silver mite, *see* **Eriophyes oleivorus**

Simplemphytus pacificus
Wilson, Oreg. Bien. Crop Pest R. f. 1913–1914, 121.

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Malloch, Tech. B. 26, U. S. Bur. Ent., 1914.

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Forbes, Ill. Ent. R. 27, 31, 1912.

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Forbes, Ill. Ent. R. 27, 31, 1912.
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Forbes, Ill. Ent. R. 27, 31, 1912.

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Bishopp, U. S. Y. B., 1912, 385.
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Forbes, Ill. Ent. R. 27, 42, 1912.

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Webster, Psyche, 1914, 95.

Sinea diadema
Morgan, U. S. B. 63, 51, 1907.
Webster, Iowa B. 130, 190, 1912.

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Felt, N. Y. St. Mus. Mem. 8, 442, 1906.
Gossard, J. Ec. Ent. IV, 206, 1911.
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Gossard, Ohio B. 264, 68, 1913.
Gossard, Ohio C. 140, 12, 1914.
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Sinoxylon spp.
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Sinuate pear-borer, *see* **Agrilus sinuatus**

Sipha flava
Davis, Tech. B. 12, pt. 8, U. S. Bur. Ent. 156, 1909.

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Patch, Me. B. 182, 241, 1910.
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Bishopp, U. S. Y. B., 1912, 398.
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Siphonophora avenae, *see* **Siphocoryne**

Siphonophora spp *see* **Macrosiphum**

Sitka spruce beetle, *see* **Dendroctonus obesus**

Sitka spruce hylurgops, *see* **Hylurgops rugipennis**

Sitodrepa panicea
Douglass, Ind. Ent. R. 2, 79, 1910.
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Smith, N. J. B. 203, 36, 1907.

Sitones flavescens
Folsom, Ill. Ent. R. 25, 112, 1909.
Folsom, Ill. B. 134, 184, 1909.
Gossard, Ohio B. 233, 81, 1911.
O'Kane, Inj. Ins. 167, 1914.
Pettit, Mich. B. 258, 280, 1910.

Sitones hispidulus
Gossard, Ohio B. 233, 81, 1911.
Parrott, N. Y. Dept. Agr. B. 62, 1830, 1914.
Pettit, Mich. R. 53, 232, 1914.
Wildermuth, U. S. B. 85, 29, 1910.
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Sitotroga cerealella
Bentley, Tenn. Dept. Agr. Bien. R., 1909–1910, 52.
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Conradi, U. S. B. 60, 69, 1906.
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Derr, U. S. F. B. 443, 45, 1911.
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Essig, Cal. Hort. B. II, 1–2, 172, 1913.
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Gee, S. C. B. 170, 13, 1912.
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Stedman, Mo. Bd. Agr. R. 38, 330, 1906.
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Sixeonotus luteiceps
Hunter, Pratt & Mitchell, U. S. B. 113, 36, 1912.

"Sha-Kill"
Surface, Pa. Dept. Agr. R. 13, 303, 1907.

Slender-horned flour-beetle, *see* **Echocerus maxillosus**

Slender seed-corn ground-beetle, *see* **Clivina impressifrons**

Slugs
Smith, N. J. B. 181, 43, 1905.
Small-eyed flour-beetle, *see* **Palorus ratzburgi**
Small gray leaf-weevil, *see* **Thricolepsis inornata**
Small green rose aphis, *see* **Myzus rosarum**
Smaller corn stalk-borer, *see* **Elasmopalpus lignosellus**
Smeared dagger, *see* **Acronycta oblinita**
Smicraulax tuberculatus
Pierce, U. S. B. 100, 76, 1912.
Smicronyx tychoides
Pierce, U. S. B. 100, 75, 1912.
Smilia misella, *see* **Microweisia**
Smynthurus albamaculata
Patch, Me. B. 123, 220, 1905.
Patch, Me. B. 134, 225, 1906.
Patch, Me. B. 187, 24, 1911.
Smynthurus arvalis
Felt, N. Y. R. 27, 103, 1912.
Smynthurus sp.
Fink, J. Ec. Ent. VII, 400, 1914.
Snowy tree-cricket, *see* **Œcanthus niveus**
Soap solution
Sherman, N. C. Dept. Agr. B. June, 1909, 19.
Smith, N. J. R., 1907, 456.
Smith, N. J. B. 213, 23, 1908.
Soap washes
Harcourt & Fulmer, Ont. Agr. Coll. B. 154, 21, 1907.
Social grape caterpillar, *see* **Harrisina americana**
Soda wash
Doten, Nev. B. 66, 26, 1908.
Sodium cyanide
Essig, Pom. Jr. Ent. III, 385, 1911.
Woglum, J. Ec. Ent. III, 85, 1910.
Woglum, U. S. B. 90, 83, 1912.
Soft brown scale, *see* **Coccus hesperidum**
Soft scale, *see* **Coccus hesperidum**
Soil Fumigant and Insecticide
Fernald, Mass. R. 25, I, 90, 1913.
Soil fumigation
Hyslop, J. Ec. Ent. VII, 305, 1914.
Solenopsis debilis
Brooks, W. Va. R. f. 1909–1910, 190.
Swenk, Nebr. Bd. Agr. R. f. 1909, 246.
Vickery, U. S. B. 85, 106, 1910.
Solenopsis geminata
Hinds, U. S. B. 74, 24, 1907.
Hinds, Ala. Poly. R. 20, 37, 1908.
Hooker, Bishopp & Wood, U. S. B. 106, 42, 1912.
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Newell, La. Crop Pest Comm. C. 13, 8, 1907.
Newell, J. Ec. Ent. I, 33, 1908.
Pierce, U. S. B. 100, 70, 1912.
Vickery, U. S. B. 85, 116, 1910.
Solenopsis geminata var. xyloni
Hinds, U. S. B. 63, 45, 1907.
Solenopsis molesta
Hunter & Pierce, U. S. B. 114, 140, 1912.
Pierce, U. S. B. 100, 70, 1912.
Vickery, U. S. B. 85, 116, 1910.
Solenopsis tenuis
Buck, Va. R. f. 1908, 67.
Solenopsis texana
Hunter & Pierce, U. S. B. 114, 140, 1912.
Pierce, U. S. B. 100, 70, 1912.
Quaintance & Brues, U. S. B. 50, 108, 1905.
Solenopsis validiusculus
Jenne, U. S. B. 80, 30, 1909.
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Britton & Walden, Conn. R. f. 1907–1908, 837.
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Taft & Shaw, Mich. Sp. B. 45, 396.
Worsham, Pr. Ga. Hort. Soc., 1908, 73.
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Mitchell, Can. Hort. XXXVII, 91, 92, 1914.
Smith, N. J. R., 1909, 366.
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Sorghum midge, *see* Contarinia sorghicola
Southern buffalo gnat, *see* Simulium pecuarum
Southern cabbage butterfly, *see* Pontia protodice
Southern cabbage worm, *see* Pontia protodice
Southern corn root-worm, *see* Diabrotica duodecempunctata
Southern hornworm, *see* Phlegethontius sexta
Southern leaf-footed plant-bug, *see* Leptoglossus phyllopus
Southern pine beetle, *see* Dendroctonus frontalis
Southern pine sawyer, *see* Monohammus titillator
Southern tobacco worm, *see* Phlegethontius sexta
Southwestern pine beetle, *see* Dendroctonus barberi
Spalangia hirta
Marlatt, U. S. C. 115, 7, 1910.
Spalangia lanaiensis
Marlatt, U. S. C. 115, 7, 1910.
Spalangia muscae
Bishopp, J. Ec. Ent. VI, 124, 1913.
Spalangia muscidarum
Bishopp, U. S. F. B. 540, 23, 1913.
Pinkus, Psyche, 1913, 148.
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Spalgis substrigata
Smith, Cal. Hort. III, 1, 27, 1914.
Sparganothis flavibasana
Gibson, Ont. Ent. Soc. R. 36, 121, 1906.
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Sparnopolius fulvus
Forbes, Ill. B. 116, 473, 1907.
Forbes, Ill. Ent. R. 24, 161, 1908.
Spermophagus robiniae
Pierce, U. S. B. 100, 74, 1912.
Speckled cutworm, *see* Mamestra subjuncta
Sphaerophoria cylindrica
Chittenden, Va. Truck Exp. Sta. B. 2, 24, 1909.
Herrick, J. Ec. Ent. IV, 222, 1911.
Herrick & Hungate, N. Y. C. B. 300, 736, 1911.
Webster & Phillips, U. S. B. 110, 131, 1912.
Sphaerophoria melanosa
Davidson, U. S. D. A. B. 100, 37, 1914.
Sphaerophoria sulphuripes
Davidson, U. S. D. A. B. 100, 37, 1914.
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Sphaeropyx bicolor
Cushman, Pr. Ent. Soc. Wash. XV, 157, 1913.
Sphaerostilbe coccophila
Lewis, Pr. Ga. Hort. Soc., 1908, 81.
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Smith, N. J. R., 1908, 334.
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Sphecius nevadensis
Quaintance, U. S. Y. B., 1907, 443.
Sphecius speciosus
Felt, N. Y. St. Mus. Mem. 8, 603, 1906.
Marlatt, U. S. B. 71, 132, 1907.
Smith, N. J. R., 1908, 332.
Sphecodina abbotii
O'Kane, Inj. Ins. 273, 1914.
Sanderson, Ins. Pests, 520, 1912.
Sphenophorus aequalis
Webster, U. S. Y. B., 1908, 384.
Sphenophorus callosus
Morrill, Ariz. Comm. Agr. & Hort. R. 6, 33, 1914.
Sherman, N. C. Dept. Agr. B., 26, 5, 19, 1905.
Smith, N. C. R. 35, 106, 1912.
Webster, U. S. B. 95, 53, 1912.
Sphenophorus cariosus
——— U. S. Y. B., 1908, 570.
Sphenophorus discolor
Smith, Cal. Hort. B. II, 8, 619, 1913.
Sphenophorus maidis
Chittenden, Ins. Inj. Veg. 196, 1907.
Kelly, U. S. B. 95, 11, 1911.
O'Kane, Inj. Ins. 128, 1914.
Sanderson, Ins. Pests, 178, 1912.
Sphenophorus obscurus
Maskew, Cal. Hort. B. II, 9, 653, 1913.
Sanderson, Ins. Pests, 175, 1912.
Sphenophorus ochreus
Stedman, Mo. Bd. Agr. R. 38, 286, 1906.
Washburn, Minn. R. 14, 74, 1912.
Sphenophorus parvulus
Hunter, Pr. Ent. Soc. Wash. XIV, 62, 1912.
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Stedman, Mo. Bd. Agr. R. 38, 286, 1906.
Swenk, Nebr. Bd. Agr. R. f. 1910, 366.
Swenk, Nebr. Ent. B. 1, 81, 1913.
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Sphenophorus pertinax
Stedman, Mo. Bd. Agr. R. 38, 286, 1906.

Sphenophorus sculptilis
Pettit, Mich. B. 233, 205, 1906.
Pettit, Mich. B. 258, 293, 1910.

Sphenophorus sp.
Dean, Kans. Agr. Educ. I, 4, 18, 1909.
Forbes, Ill. Ent. R. 24, 1, 1908.
Price, Va. C. 7, 69, 1909.
Sanborn, Okla. B. 100, 30, 1912.
Watson, Fla. R., 1912, LXIII.
Weldon, Md. Hort. Soc., 1907, 66, 1908.

Sphenophorus spp.
Forbes, Ill. Ent. R. 23, 52, 1905.
Haseman, Mo. Bd. Agr. R. 44, 273, '12.

Sphenophorus venatus
Webster, U. S. Y. B., 1908, 383.
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Sphenophorus zeae
Chittenden, Ins. Inj. Veg. 197, 1907.

Sphinx atropos
Howard, U. S. B. 54, 81, 1905.

Sphinx drupiferarum
Brittain, Pr. Ent. Soc. B. C., 4, 15, 1914.
O'Kane, Inj. Ins. 274, 1914.

Sphinx eremitus
Gibson, Ont. Ent. Soc. R. 36, 119, 1906.

Sphinx gordius
Franklin, Can. Ent., 1907, 19.

Sphinx kalmiae
Felt, N. Y. St. Mus. Mem. 8, 548, 1906.

Sphragisticus nebulosus
Forbes, Ill. Ent. R. 23, 198, 1905.

Spider on lawns
Tucker, Kans. Farm., Aug. 9, 1906, 831.

Spiders, *bite of*
Herrick, Rur. N. Y., 1912, 994.
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Herrick, Rur. N. Y., 1911, 684.

Spiders in house
Felt, C. Gentl., 1906, 1003.

Spilochalcis odontotae
Cotton, Ohio Nurs. Orch. Insp. B. 7, 18, 1906.

Spilochalcis vittata
Gossard, Fla. B. 79, 288, 1905.

Spilochalcis mariae
Howard & Chittenden, U. S. C. 97, 7, 1908.

Spilochalcis sp. on boll weevil
Hunter & Pierce, U. S. B. 114, 141, 1912.
Pierce, U. S. B. 100, 49, 1912.

Spilochalcis torvina
Titus, U. S. B. 54, 40, 1905.

Spilonota ocellana, *see* **Tmetocera**

Spilosoma virginica, *see* **Diacrisia**

Spinach aphis, *see* **Myzus persicae**

Spinach flea-beetle, *see* **Disonycha xanthomelaena**

Spinach leaf-miner, *see* **Pegomyia vicina**

Spiny oak worm, *see* **Anisota stigma**

Spittle insects
Britton, Conn. R. 13, 255, 1914.

Spotless fall webworm, *see* **Hyphantria textor**

Spotted blister beetle, *see* **Epicauta maculata**

Spotted cutworm, *see* **Noctuac-nigrum**

Spotted fever
Cooley, Mont. B. 85, 6, 1911.
Cooley, Mont. B. 88, 92, 1912.
Fricks, Mont. Bd. Bien. R. 1, 28, 1914.
Hunter & Bishopp, U. S. B. 105, 1911.

Spotted fever tick, *see* **Dermacentor venustus**

Spotted ladybird, *see* **Megilla maculata**

Spotted milkweed bug, *see* **Oncopeltus fasciatus**

Spotted pelidnota, *see* **Pelidnota punctata**

Spotted root fly, *see* **Euxesta notata**

Spotted strawberry leaf-beetle, *see* **Typophorus canellus**

Spotted willow leaf-beetle, *see* **Melasoma lapponica**

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Dean, Lewis & Merrill, Kans. Farm., Jan. 31, 1914, 7.
Faurot, Mo. Hort. Soc., 1912, 99.
Faurot, Mo. Bd. Agr. R. 45, 560, 1913.
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Melander, Better Fr., Feb., 1909, 23.
Melander & Beattie, Wash. Pop. B. 13, 1909.
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Sanborn, Tex. B. 113, 5, 1908.
Shaw, Ohio Nurs. Orch. Insp. B. 11, '10.
Smith, Ga. Bd. Ent. B. 19, 157, 1906.
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Stuart, Vt. B. 113, 96, 1905.
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Vosler, Cal. Fr. Grow., May 23, '14, 4.
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——— Va. Agr. R. f. 1907, 127, 1908.
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Spruce bud worm, *see* **Tortrix fumiferana**

Spruce cone-worm, *see* **Dioryctria reniculella**

Spruce-destroying beetle, *see* **Dendroctonus piceaperda**

Square-necked grain-beetle, *see* **Cathartus gemellatus**

Squash ladybird, *see* **Epilachna borealis**

Squash-bug, *see* **Anasa tristis**

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Swenk, Nebr. Ent. B. 1, 104, 1913.
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Smith, N. J. R. f. 1904, 558, 585, 1905.
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Ten-spotted xanthonia, *see* **Xanthonia decemnotata**
Tent caterpillar, *see* **Malacosoma americana**
Tenuipalpus californicus
Quayle, Cal. B. 234, 497, 1912.
Tephroclystis miserulata, *see* **Eupithecia**
Teras minuta, *see* **Acleris**
Teras vacciniivorana
Whitson, Sandsten, Haskins & Ramsey, Wis. B. 119, 44, 1905.
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Ainslie, U. S. C. 116, 7, 1910.
Barre & Conradi, S. C. B. 141, 44, 1909.

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Smith, N. J. B. 203, 38, 1907.
Snyder, U. S. C. 134, 5, 1911.
Symons, Md. B. 101, 192, 1905.
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——— U. S. Y. B., 1905, 636.
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Termes lucifugus
Essig, Cal. Hort. B. II, 1–2, 28, 1913.
Parker, J. Ec. Ent. IV, 422, 1911.

Termes spp.
Ainslie, U. S. F. B. 634, 7, 1914.

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Hopkins, U. S. C. 128, 3, 1910.
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Prizer, Cal. Cult., XXXIV, 603, 1910.
Snyder, U. S. C. 156, 1912.

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Dean, Kans. Farm., Apr. 22, 1908, 515.

Termites in sugar
Holloway, U. S. C. 171, 7, 1913.

Terrapin scale, *see* **Eulecanium nigrofasciatum**

Tessellated scale, *see* **Eucalymnatus tessellatus**

Tetracha virginica
Chittenden, U. S. C. 87, 11, 1907.

Tetralopha militella
——— U. S. Y. B., 1907, 549.

Tetramorium caespitum
Felt, N. Y. St. Mus. B. 129, 31, 1909.
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Marlatt, U. S. C. 34, 2nd Ed., 3, 1907.
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Tetraneura graminis
Patch, Me. B. 181, 208, 1910.

Tetraneura ulmi
Patch, Me. B. 181, 219, 1910.
Tucker, Kans. Farm., July 19, '06, 748.

Tetraneura ulmisacculi
Patch, Me. B. 181, 216, 1910.

Tetranychoides californicus
Quayle, Cal. B. 234, 498, 1912.

Tetranychus bicolor
Britton, Conn. R. 6, 306, 1907.
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Tetranychus bimaculatus
Baldwin, Ind. Ent. R. 5, 152, 1912.
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Slingerland & Crosby, Man. Fr. Ins. 208, 315, 1914.
Smith, Prog. Farm., Aug. 20, '10, 669.
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Trumble, Better Fr., Apr. 1912, 27.
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Weldon, Colo. B. 152, 9, 1909.
Weldon, Colo. R. Bd. Hort. f. '09, 39.
Weldon, Better Fr. Apr., 1910, 24.
Weldon, Colo. B. 169, 12, 1910.
Weldon, Colo. Fr. Grow., Apr.–May, 1910, 9.
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Tetranychus gloveri

Sherman, N. C. Dept. Agr. B., 29, 6, 26, 1908.
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Smith, N. C. R. 34, 35, 1911.
Smith & Lewis, U. S. B. 60, 81, 1906.
Titus, U. S. B. 54, 88, 1905.
Titus, U. S. C. 65, 1, 1905.
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——— U. S. Y. B., 1905, 631.
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Forbes, Ill. Ent. R. 23, 224, 1905.

Tetranychus mytilaspidis

Bremner, Cal. Hort. Comm. Destr. Ins., 1910, 4.
Essig, Cal. Hort. B. II, 1–2, 4, 9, 1913.
Ewing, J. Ec. Ent. V, 414, 1912.
Morrill, S. W. Stockm., May 2, 1913, 15.
Neuls, Cal. Hort. B. II, 6, 557, 1913.
Parker, U. S. C. 166, 3, 1913.
Pease, Cal. Hort. Comm. C. Nov., '05, 9.
Prizer, Cal. Hort. B. I, 5, 174, 1912.
Quayle, Cal. B. 214, 485, 1911.
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Watson, Fla. R. 1913, LXX.

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Caesar, Ont. Ent. Soc. R. 44, 51, 1914.

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Ehrhorn, Cal. Hort. Comm. Bien. R. 1, 121, 1905.
Prizer, Cal. Hort. B. I, 5, 174, 1912.
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Beal, N. Y. C. B. 320, 710, 1912.
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Ewing, Oreg. Agr. Coll. Exp. Sta. B. 121, 1914.
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Fernald, Mass. R. 22, II, 73, 1910.
Russell & Johnston, J. Ec. Ent. V, 429, 1912.
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Felt, N. Y. R. 28, 39, 1913.
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Hunter & Pierce, U. S. B. 114, 142, 1912.
Pierce, U. S. B. 100, 52, 1912.
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Schwarz, Pr. Ent. Soc. Wash., XI, 107, 1909.
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Chittenden, U. S. B. 54, 79, 1905.
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Tetrastichus sp.
Dean, U. S. B. 85, 55, 1911.
Fernald, J. Ec. Ent. II, 278, 1909.
Parrott, N. Y. Fr. Grow. Assoc., '10, 34.
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Britton, Conn. R. 8, 821, 1909.
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Felt, N. Y. St. Mus. Mem. 8, 669, 1906.
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Johnson, U. S. D. A. B. 19, 2, 1914.
Tettix arenosus
Morgan, U. S. Y. B., 1910, 292.
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Banks, J. Ec. Ent. I, 213, 1908.
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Cotton, Tenn. B. 94, 119, 1911.
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Graybill, U. S. F. B. 498, 5, 1912.
Lewis, Okla. B. 81, 1908.
Mohler, U. S. F. B. 258, 8, 1906.
Mohler, U. S. F. B. 569, 1914.
Nighbert, S. C. C. 24, 3, 1914.
Powers, S. C. C. 6, 5, 1912.
Schroeder, U. S. B. An. I. R., '05, 49, 71.
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Smith, N. J. R., 1905, 614.
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Felt, N. Y. St. Mus. Mem. 8, 500, 1906.
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Thecodiplosis mosellana
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Felt, N. Y. St. Mus. Mem. 8, 596, 1906.
Theobaldia incidens, *see* **Culex**
Theretra tersa
Forbes, Ill. Ent. R. 23, 167, 1905.
Theridium placens
Davidson, U. S. D. A. B. 100, 36, 1914.
Theronia fulvescens
Aldrich, J. Ec. Ent. V, 87, 1912.
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Theronia conotracheli
Quaintance & Jenne, U. S. B. 103, 147, 1912.
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Felt, N. Y. St. Mus. Mem. 8, 168, 1905.
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Thomasia populicola
Essig, Cal. Hort. B. II, 1–2, 84, 1913.
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Thricolepis inornata
Wilson, Oreg. Bien. Crop Pest R. f. 1913–1914, 197.
Thripoctenus russelli
Chittenden, U. S. Y. B., 1912, 323.
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Slingerland & Crosby, N. Y. C. B. 252, 345, 1908.
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Cal. Fr. Grow., Mar. 4, 1905, 3.
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Forbes, Ill. Ent. R. 23, 135, 1905.
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Fernald, Mass. Crop R. f. Oct. '07, 30.
Fernald, Mass. Bd. Agr. R. 55, 385, '08.
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Thrips sexmaculata, *see* **Scolothrips**
Thrips striatus, *see* **Anaphothrips**
Thrips tabaci
Baldwin, Ind. Ent. R. 5, 145, 1912.
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Bourne, J. Ec. Ent. VII, 196, 1914.
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Davis, J. Ec. Ent. III, 182, 183, 1910.
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Essig, Cal. Hort. B. II, 1–2, 37, 1913.
Garcia, N. Mex. B. 68, 23, 1908.
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Thyanta custator
Forbes, Ill. Ent. R. 23, 196, 1905.
Hinds, U. S. B. 59, 29, 1906.
Morrill, U. S. B. 86, 84, 1910.
Sanderson, U. S. B. 57, 49, 1906.
Thyanta perditor
Forbes, Ill. Ent. R. 23, 117, 1905.
Thymaris slingerlandana
Burgess, Ohio Nurs. Orch. Insp. B. 5, 11, 1905.
Johnson & Hammar, U. S. B. 116, 48, 1912.
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Thyreus abbotti, *see* **Sphecodina**
Thyridopteryx ephemeraeformis
Bentley, Tenn. Dept. Agr. Bien. R., 1909–1910, 54.

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Britton, Conn. R. 7, 337, 1908.
Burgess, U. S. B. 60, 74, 1906.
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Cotton, Ohio Nurs. Orch. Insp. B. 7, 36, 1906.
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Gahan, J. Ec. Ent. II, 236, 1909.
Garman, Ky. B. 133, 46, 1908.
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Glenn, Prai. Farm., May 1, 1913, 17.
Gossard, Ohio B. 233, 110, 1911.
Hadley, Rur. N. Y., 1913, 1223.
Harris, Psyche, 1909, 65.
Haseman, Mo. Hort. Soc., 1911, 234.
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Headlee, Kans. Farm., Sept. 11, '09, 12.
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Houser, Ohio B. 194, 186, 1908.
Howard, Nebr. Hort. Soc., 1912, 207.
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Rumsey & Brooks, W. Va. R. f. 1907–1908, 20.
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Smith, N. J. B. 181, 35, 1905.
Smith, N. J. R., 1907, 418.
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Stedman, Mo. Hort. Soc., 1905, 283.
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Troop, Ind. Farm., Oct. 5, 1907, 2.
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Tibicen cruentifera
Cooley, Mont. B. 88, 87, 1912.

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Patch, Me. B. 134, 222, 1906.

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Felt, N. Y. R. 28, 111, 1913.
Fernald, Mass. R. 25, II, 86, 1913.
Fisher, Pa. D. A. Zoöl. III, 12, 371, 7, 1906.
Funk, Pa. Dept. Agr. B. 152, 215, 1907.
Gahan & Weldon, U. S. B. 67, 38, 1907.
Garman, Ky. B. 120, 74, 1905.
Garman, Ky. B. 133, 60, 1908.
Gossard, Ohio P. B. 334, 1912.
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Twig-borer, *see* **Polycaon confertus**
Twig-girdler, *see* **Oncideres cingulata**
Twig-pruner, *see* **Elaphidion villosum**
Two-lined chestnut borer, *see* **Agrilus bilineatus**
Two-spotted ladybird, *see* **Adalia bipunctata**
Two-spotted mite, *see* **Tetranychus bimaculatus**
Two-striped grasshopper, *see* **Melanoplus bivittatus**
Two-striped leaf-beetle, *see* **Luperodes bivittatus**
Two-striped locust, *see* **Melanoplus bivittatus**
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